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AT DEADLINE

Realty fund may terminate

Frank Russell Trust has made a preliminary recommendation to terminate its $385 million open-end real estate fund.

Randall P. Lert, senior vice president, said withdrawal requests exceed the fund's ability to pay within a one-year time period, required under banking law. With a termination, cash flow from the fund may be distributed on a pro-rata basis.

Russell also plans to set up a closed-end "exchange" fund into which investors may transfer unit shares from the open-end fund.

Eight real estate managers oversee the properties for Russell Trust, a manager of managers.

Interests purchased

The new Landmark Equity Partners II L.P., a partnership managed by Landmark Ventures, has bought for about $50 million 21 separate venture capital limited partnership interests owned by Harvard Management.

The deal involved 400 early and mid-stage technology companies.

Union fund taps manager

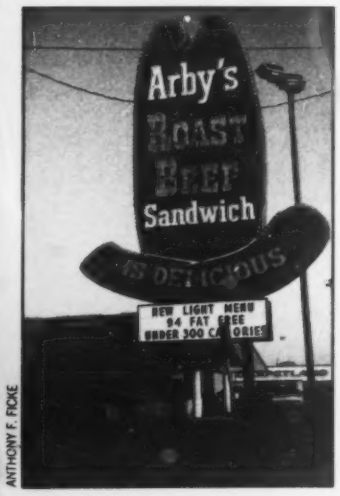
The Southern California IBEW-NECA Pension Plan, with nearly $600 million in assets, hired Trust Fund Advisors, a subsidiary of ULLICO, to manage $10 million in equities, said Claire Davis, administrator. Assets came from cash.

Custodial account assigned

Fremont Mutual Funds, owned by Bechtel Investments, has appointed Bankers Trust as custodian and fund accountant of its more than $160 million in

Continued on page 54

INSIDE



ANTHONY F. FICKE

Sizing up the returns

Some large institutional investors are exploring the possibility of getting big real estate returns through investments in small properties — namely franchise restaurant buildings. Page 3.

Mutual Benefit GIC investors unite

25 funds seek payment assurances

By Hillary Durgin

Twenty-five large corporations with multimillion-dollar investments in Mutual Benefit Life Insurance Co. GICs have united to secure regular pension payments to their pension plan participants.

Led by American Telephone & Telegraph Co., New York, the coalition wants the troubled insurer to continue making interest and benefit payments negotiated under their guaranteed investment contracts, and to honor the required cash payments due at intermediate and final maturity dates.

The companies — including Allied-Signal Inc., Bell Atlantic Corp., BellSouth Corp., General Mills Inc., Grumman Corp., NYNEX Corp. and Texas Instruments Inc. — filed their petition last week in the Superior Court of New Jersey and requested a hearing Aug. 5.

At stake are the liquidity of other GIC issuers and the security of employees' retirement funds if individuals demand their money, the brief said.

"If a large number of employees in these retirement savings plans decide to shift out of these guaranteed interest plans, it would disrupt the orderly flow of payments from other institutions . . . and have an adverse financial impact on the plans," said Dick Gray, an AT&T spokesman.

The treatment of GICs was never made clear under the rehabilitation plan announced by the New Jersey Department of Insurance, which seized Newark-based Mutual Benefit last month. The companies would like the court to clarify that the insurer will honor GIC contracts on the same terms as annuities.

Under the rehabilitation plan approved by the court, Mutual Benefit will continue to make regular benefit payments on annuities, health benefits and death benefits, but will halt temporarily cash surrenders, withdrawals and policy loans.

Of its $5.7 billion in tax-exempt assets under management as of Jan. 1, the insurer had $769 million in single or bullet GIC business and $601 million in window GICs, according to a *Pensions & Investments* survey (*P&I*, May 20). At the time the insurer was taken over, Mutual Benefit Life had total assets of $13.8 billion and liabilities of $13.5 billion.

At AT&T, Mutual Benefit GICs comprise 2.5% of the company's guaranteed interest fund, which is one of five investment options in the AT&T Long Term Savings Plan for Management Employees, Mr. Gray said. About 56,000 AT&T employees have investments in the guaranteed interest fund, the court brief said.

Grumman, Bethpage, N.Y., has invested a small amount of its $1 billion defined contribution plan in Mutual Benefit GICs. The com-

See **GICs** *on page 52*

STIF fund exposure questioned

By Marlene Givant Star

Several large pension funds for which Bankers Trust Co. lends securities will meet in the next few days to discuss the bank's use of Columbia Gas System Inc. securities in the short-term investment fund that acts as collateral backing the securities loans.

Columbia Gas, Wilmington, Del., filed for protection under Chapter 11 of the federal bankruptcy code July 31. In the weeks prior to the filing, the natural gas company had defaulted on short-term debt totaling about $50 million, placing it in default under both of its bank credit agreements.

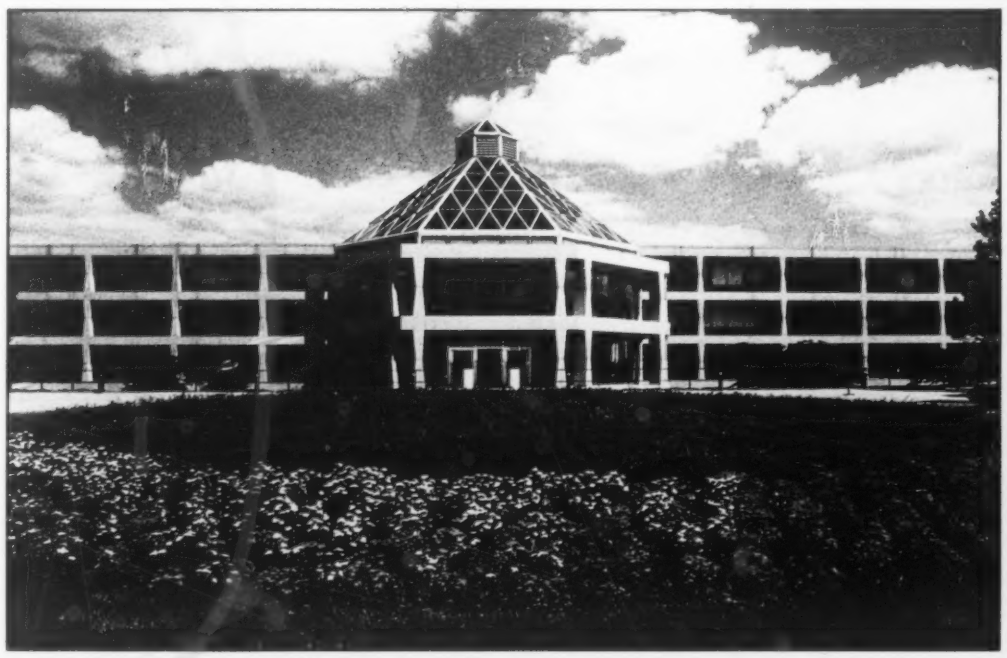
Columbia Gas represents 1% to 2% of the total cash collateral backing Bankers Trust's mammoth securities lending base of $55 billion.

The company's reorganization effectively will pit Bankers Trust as a lender against other debtholders of Columbia Gas, including the bank's securities lending clients.

The pension funds will discuss whether Bankers Trust is doing all it can to make sure Columbia Gas meets its obligations to the STIF fund and whether it was appropriate for the bank's collateral fund to include paper rated A2P2, Columbia Gas's commercial paper rating prior to the default.

"While it's all well and good for A2P2 paper to be in the Super STIF (more aggressive) fund, they did not tell us it was in the securities lending STIF fund. I found that annoying. We're seeing what can be done," said John Long, director of investments of the $1.4

See **Utility** *on page 53*



IBM's pension fund may take the unusual step of exchanging properties for REIT shares.

Buildings-for-stock swap eyed

IBM tries to boost real estate liquidity

By Steve Hemmerick

STAMFORD, Conn. — In a pace-setting move, the $22 billion IBM Corp. pension fund is seeking to exchange some of its smaller real estate properties for shares in real estate investment trusts.

The swap would improve the liquidity of a portion of the IBM fund's real estate portfolio, said Kyle Escherich, an analyst with the pension fund.

Many of the nation's pension funds have found a clear inability to exchange their real estate for cash. Unlike actual real estate properties, many shares of REITS are publicly traded and are often easily sold at the market price.

Paul Saint-Pierre, president of Pension Realty Advisors Inc., a real estate consulting firm in San Francisco, said he "conservatively" estimates pension funds in open-end commingled real estate funds are in redemption waiting-list lines trying to cash in more than $2 billion in fund shares.

The $2 billion is nearly 10% of the aggregate outstanding asset value of the nation's 38 open-end real estate funds.

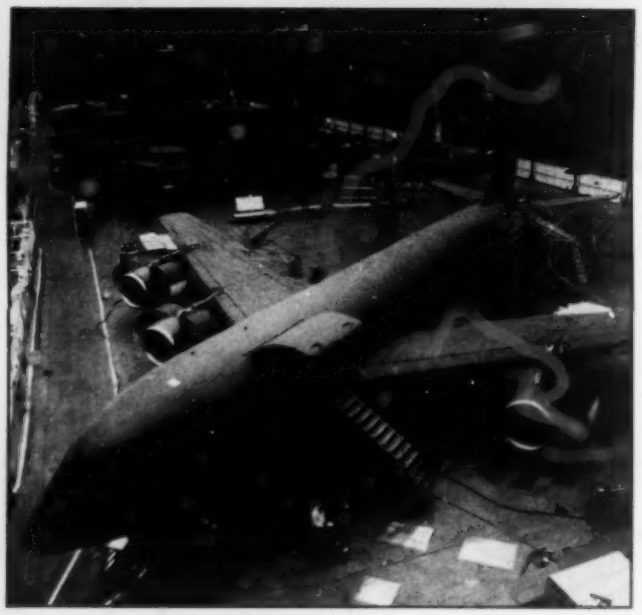
"Real estate liquidity is a growing problem for the institutional investment markets. Within 10 years, industry liquidity may become a crisis unless investors and investment managers begin now to implement and support long-term solutions," said Mr. Saint-Pierre.

The IBM offer to REITs is one possible solution. Mr. Escherich said the offer is only for a small portion of the pension fund's properties. The properties considered for an exchange for REIT shares are valued at $5 million to $15 million each.

"We do believe that on these small properties, the REITS can do a better job at managing them. I wouldn't say though that our properties are woefully undermanaged. We just feel that for

See **IBM** *on page 54*

NEWS DIGEST



Boeing, a major defense contractor, will face a shareholder resolution in 1992 asking about its foreign military sales despite the measure's defeat at this year's annual meeting. Page 38.

The New York City Teachers fund overhauls its manager roster, adding five firms and dropping three. Page 4

Nomura Capital is responding to concerns of clients regarding the Japanese brokerage scandal. Page 6

Age-based profit-sharing plans are seeing renewed interest as a result of an IRS proposal. Page 8.

An increase in high-yield bond defaults mean potentially lucrative returns. Page 32.

SPECIAL REPORT: WORLD'S LARGEST FUNDS

The 300 largest pension funds top $2.4 trillion, and some experts think many of the funds will be shifting to a higher equity exposure. Page 19.

INTERNATIONAL

Boosting national economic health could be one by-product of Latin American countries' efforts to start pension systems. Page 3.

Canadian investors are seeking performance measurement standards. Page 8.

REAL ESTATE

New York University's conference on pension fund realty investing finds participants bemoaning the current state of the industry. Page 30.

A structured mortgage deal is restructured, making the properties involved irrelevant to investors. Page 36.

The financial health and stability of real estate management firms is of increasing importance. Page 44.

★★★★★★★★

The "Money Movers" section has been renamed "Hirings" and now includes the appointment of investment management consultants. Page 48.

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Bank gets favorable ruling

Fiduciaries now must share responsibility for losses

By Joel Chernoff

NEW YORK — In a groundbreaking decision, a federal appeals court has ruled a bank trustee can force other ERISA fiduciaries to pay their fair share for investment losses stemming from a fiduciary breach.

The July 25 ruling by the 2nd U.S. Circuit Court of Appeals means a single institutional fiduciary no longer will get stuck holding the bag for the entire loss if there are other responsible parties. Previous rulings have said a fiduciary had no right under the 1974 Employee Retirement Income Security Act to force other fiduciaries to contribute, even if they played a larger role in the violation but were not named in the original lawsuit.

The problem is particularly troublesome for financially sound institutions that are considered to be "deep pockets" by plaintiffs.

Sometimes participants are reluctant to sue a fiduciary with which they have a continuing relationship, such as their employer or labor union, and instead sue an outside fiduciary, such as the trustee, money manager or other service provider.

The ruling also affects sharing responsibility among multiple defendants named in fiduciary litigation. ERISA's doctrine of joint and several liability means that all defendants can be held liable for the entire loss. Under the new ruling, a deep-pocket defendant would be able to try to recover part or all of its losses from other plan fiduciaries.

The decision does not, however, change the amount of money that can be recovered by a pension plan and its participants, just how that burden is distributed.

Ultimately, the issue might have to be decided by the U.S. Supreme Court, as the 2nd Circuit ruling has caused a split among judicial jurisdictions.

The decision was hailed by ERISA attorneys.

"I think that it restores a balance among plan fiduciaries that really always existed under state law but seemed not to exist under ERISA," said William Hanrahan, a partner with the Washington law firm of Groom & Nordberg, which represented Scvran Bank/Maryland, the bank trustee in the litigation.

The decision "prevents someone's minor mistake for accounting for 100% of the bill," Mr. Hanrahan said.

The case involved a small defined benefit plan sponsored by Fairway Spring Co. Inc., Horseheads, N.Y. The plan, created in 1981, originally hired Glen Dawson, president of Chesapeake Pension Consultants Inc., Annapolis, Md., as trustee. He invested the plan assets in various instruments, including equipment leasing arrangements, real estate partnerships and mortgage-backed notes.

See **Ruling** *on page 55*

Institutions left out in the cold

GAMCO fighting change in bylaws

By Marlene Givant Star

GAMCO Investors Inc., the largest institutional shareholder of Century Telephone Enterprises Inc., is fighting to override a bylaw change that effectively disenfranchises most of Century's institutional investors.

The amendment was approved at the company's May 30 annual meeting. As a result, shares of voting stock that have been beneficially owned continuously since before May 30, 1987 — including the stake held by the company's benefit plans — will have 10 votes per share. All other shares — including those held by most of the company's institutional investors — will have one vote per share.

GAMCO, controlled by Mario J. Gabelli, the well-known value stock investor, filed suit against Century and certain of its directors seeking to prevent the company from implementing the change. GAMCO and other Gabelli-owned entities hold an aggregate 14.67% of the outstanding Century common stock.

Mario Gabelli thinks Century Telephone's attempt to amend its bylaws "stinks."

"We're not a gadfly. This is the first time we've gone this far because it stinks," said Mr. Gabelli.

Although GAMCO — with 4,531,973 shares — has almost the same number of shares as the company's employee stock ownership plans, the ESOPs represent 41.7% of the company's voting power, while GAMCO has only 4.8% of the vote.

GAMCO's complaint alleges the proxy statement disclosure concerning the amendment was false and misleading, that it failed to disclose that "the true purpose of the amendment is to entrench current management and to bar long-term shareholders from receiving voting parity with the company's employee benefit plans."

GAMCO's suit also charges the proxy material "fails to include an opinion from an independent financial adviser as to the effect of the amendment on Century's common stock or an explanation as to why no such opinion was obtained and that it fails to ade-

See **GAMCO** *on page 49*

Harvard weighs 5 bank deals

By Terry Williams

CAMBRIDGE, Mass. — The Harvard University endowment is considering investing in one or more of five troubled New Hampshire banks.

The five banks are the five largest in New Hampshire. The Federal Deposit Insurance Corp. has sent out information packages on the banks to prospective bidders, and has set an early September deadline to submit bids, according to Scott Sperling, managing partner with The Aeneas Group.

Aeneas is the alternative investment arm of Harvard Management Corp., which manages the $5 billion endowment for the university.

"We will probably look at a whole range of opportunities in the financial services area," said Mr. Sperling. "This may or may not be something we will bid on."

Investments in failed banks are attractive because regulatory issues and the required due diligence present a high barrier to entry for many investors, said Mr. Sperling.

The five banks in question are Amoskeag Bank Shares, BankEast Corp., Dartmouth Bancorp., New Hampshire Savings Bank and Numerica Financial Corp.

Although all five remain open, they are in poor financial shape, according to Jim Moynihan, banking analyst with Advest Group Inc., Boston.

The capital ratios of the banks — which measure a bank's capital to assets — are low, many of them negative. "For all intents and purposes, we are looking at five companies that are virtually brain dead," he said.

"They are open banks now, but they will be closed-bank transactions," Mr. Moynihan said.

In a closed-bank transaction, the successful bidders are awarded the bank and they bring in a new management team to operate it, said Mr. Moynihan. The federal government takes control of the non-performing loans.

In comparison, in an open-bank assisted deal, management remains in place and seeks a cash infusion to salvage the company. It is the least expensive to taxpayers of the two transactions.

A spokesman with the FDIC in Washington declined to comment.

A. Roland Roberge, commissioner of New Hampshire's banking department, also declined to

See **Harvard** *on page 53*

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N.Y.C. Teachers revamps portfolio

NEW YORK — Trustees of the $5.2 billion New York City Teachers Variable Fund invested $670 million with five new managers and allocated $106 million to three existing managers.

The actions complete a reshuffling of investment advisers for the fund's Variable Annuity Program A. The fund also released three advisers and two had accounts reduced.

An equity employee-contributory fund, Variable Annuity Program A, was restructured because the trustees wanted a different style of management, according to Donald Miller, executive director.

The elimination of the managers wasn't so much performance related as it was a portfolio repositioning to reflect the new style, he said. Although Mr. Miller didn't elaborate on the style changes, one manager said the fund sought to increase the participation of minority- and women-owned firms.

At least two of the new firms fit that criteria — Beal Investment Co., which was hired to run $60 million, and Sturdivant & Co. Inc., which was given $10 million.

In addition, Fidelity Management Trust Co., Enhanced Investment Technologies Inc. and Roll and Ross Asset Management Corp. each received $200 million. Current managers, Goldman Sachs Asset Management, John A Levin & Co. Inc. and Bankers Trust Co. received respectively, an additional $79 million, $4 million and $23 million.

Eliminated as fund managers were Concord Capital Management, which managed $154 million; PRIFORM Investment Management, which oversaw $164 million; and Wells Fargo Nikko Investment Advisors, which managed $408 million.

Wells Fargo Nikko still is an investment manager in other capacities for the New York City Teachers Variable Fund.

Also, $35 million was transferred from Sound Shore Management Inc. and $15 million was taken from MIDCO Investors; both remain advisers to the retirement board.

Rogers Casey & Associates, Darien, Conn., aided the trustees. ■

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CORRECTIONS & CLARIFICATIONS

- In a July 22 story on actuarial fees, the amount of a **TPF&C** bid for services was reported incorrectly. The bid was less than the previous year's charges, as reported, but was less than $230,000.
- The following profile was omitted inadvertently from the May 20 directory of money managers.

Bartlett & Co.
36 E. Fourth St., Cincinnati, Ohio 45202; (513) 621-4612

Total assets managed	$1,736,000,000
Total discretionary	$1,616,000,000
Total tax-exempt assets	$518,000,000
Total discretionary tax-exempt	$500,000,000
Mortgage assets	$6,000,000
International equity assets	$43,000,000
International fixed-income	$2,000,000
Mortgage-backed assets	$25,000,000
Tax-exempt clients	167
Types of accounts managed	CEFG
Minimum separate account	$1,000,000
No. of portfolio managers	15
Size of research staff	5

Bartlett & Co. is an active equity, active fixed-income, balanced, real estate, active international/global equity and cash manager.

Its equity approach is value-oriented, risk-averse, disciplined and primarily bottom-up. Purchases are made at prices that represent substantial discounts from determined intrinsic values. Sales are made at predetermined target prices.

Its fixed-income approach also is value-oriented, seeking securities that are undervalued based on analysis of the yield curve, sector spreads and credit-quality spreads.

In real estate, it funds limited partnerships that purchase properties below their replacement value.

Options and financial futures are used.

The asset mix Jan. 1 was 46% stocks, 38% bonds, 10% cash, 1% mortgages and 5% mortgage-backed securities.

Donald S. Schmidt is chief investment officer; Kathy Lang-Albright is client contact.

PEOPLE

Broker targets projects for kids through rebates

■ "We don't just want to be known as a minority firm."

Those words of Christopher Gardner, managing general partner in the broker-dealer firm Gardner Rich & Co., Chicago, have proved true. The firm has distinguished itself by "rebating" 10% of its commission from public fund money managers back to the plan sponsor with the stipulation the rebate be used for schools for special or handicapped children or urban libraries.

"We've gotten opportunities from public funds. They have allowed us to grow our business," Mr. Gardner said.

The opportunities afforded Mr. Gardner are ones he knows better than to pass up. His rebates are, in their own way, intended to help children see opportunities when they present themselves.

"All I ever had were public libraries and public schools, and even at times, public aid," he said of his childhood. Years later, times weren't always so bright. "Ten years ago, I was homeless with a 14-month-old baby."

But perseverance, a few breaks and hard work helped him get established with Bear Stearns in San Francisco and then New York. And for the past four years, he has had his own firm in Chicago. He is thankful. "None of this had to happen," he said. "But with equal opportunity comes equal responsibility to give something back to the community."

Schools and libraries in Chicago, Southern California and, most recently, Kansas City have been the beneficiaries. "In some cases it's not a lot of money, but when you put that money in the hands of a school teacher, it's $2,000 they can spend for the students that they hadn't had."

"The best thing is that the kids know you when you visit," he said. And he thinks the children understand the intended lesson. The walls of his office are decorated with thank you letters and artwork from the children.

MICHAEL A. MARCOTTE

Christopher Gardner started his firm's rebate program because "with equal opportunity comes equal responsibility."

ASSOCIATIONS

Lacking support, NISF fades away

■ The National Investment Sponsor Federation is dormant, and there are no plans to revive it, said Charles Stephens, president of the association.

Mr. Stephens said the group's inactivity is due to lack of support by members, who are faced with restricted travel budgets and limited resources. Members in the NISF came from the numerous regional plan sponsor groups.

He disputed the perception that the Council on Investment of Employee Benefit Assets is filling the NISF's role. The NISF, he said, was intended to have open membership and be primarily an educational and information-sharing entity, not a lobbying group, while his understanding of CIEBA is that it has a limited number of primary memberships and takes lobbying positions.

Mr. Stephens is director of investors for the UMWA Health & Retirement Funds, Washington.

TOM REED

NISF President Charles Stephens said there are no plans to revive the association.

FINANCING

Mezzanine fund nabs $70 million

■ The Marlborough Capital Investment Fund raised $70 million from institutional investors.

The mezzanine fund, one of the few to raise any money during the past two years, will provide financing with equity participations to established midsize companies. Investments usually will be made in connection with expansion or acquisition financings, buy-outs or recapitalizations.

The fund is run by Marlborough Capital Advisors, an arm of The New England.

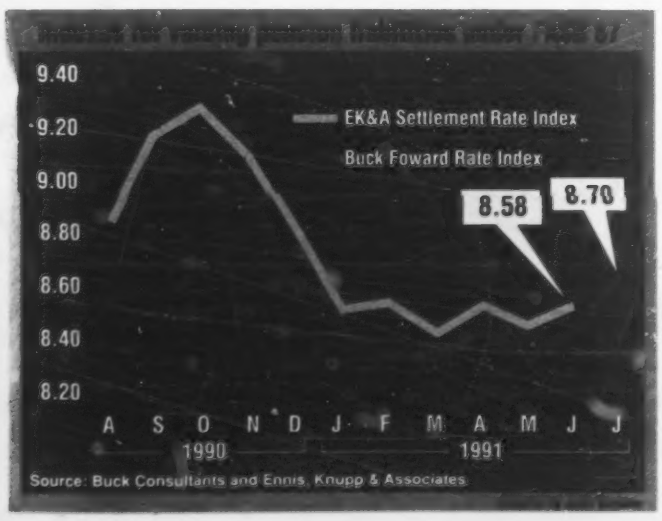
REAL ESTATE

Professor emphasizes 'homework'

■ Some real estate managers that claim to specialize in workouts or doctoring troubled real estate portfolios caused or contributed to the original problems, said Paul D. Lapides, professor of real estate development at Columbia University, New York.

While there are talented specialists in portfolio workouts, the demand now exceeds supply. Some firms offering workout services are interested only in "enormous fees" and paying little attention to development of skilled personnel or resources, he said.

"Even some of the very large firms don't have the skills and resources necessary to provide these services," he warned, cautioning anyone hiring a workout firm to "do your homework" first.



INTERNATIONAL

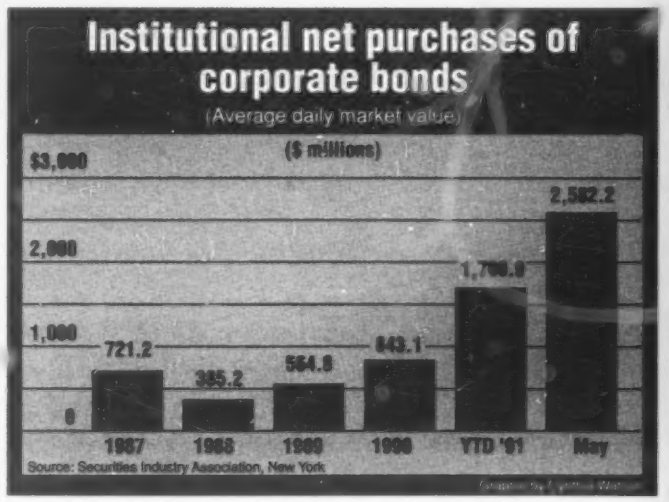
Dividends boost Japan weighting

■ Reinvestment of dividends has contributed to Japan's heavy weighting in the Morgan Stanley Capital International Europe Australia Far East Index, according to a study by Boston International Advisors Inc.

Construction of the index assumes dividend income is reinvested into each security in proportion to capitalization weights, says the study by David A. Umstead, managing director of Boston International. This assumption, however, means dividend income flows out of high-yielding markets to low-yielding ones. Japan has the lowest yield of any market in the index: 0.8% in 1990.

During the EAFE index's 21-year history, Japan's weight has increased 35.8 percentage points, to 50.4% at the end of 1990, according to the study. Of the increase, 40% has been due to reallocation of dividend income.

It seems illogical for a multimarket, indexed portfolio to require continual, significant reallocation from some markets to others, Mr. Umstead's study said: "Tax-exempt investors are presumably indifferent between capital gains and dividend income. Why then should there be a systematic allocation away from one source of return toward another?"



INVESTING

Corporate bonds attract investors

■ Institutional investors are snapping up corporate bonds like free candy this year and demand is expected to continue in the next several weeks barring an unexpected decline in interest rates, according to a report from the Securities Industry Association.

Institutional net purchases rose to an average $2.6 billion daily in May, from $1.6 billion daily average in April. In the year through May 31, the daily average rose to a record $1.7 billion, nearly twice the previous peak of $859.7 million daily average for all of 1986.

The increased investor appetite stems from two factors: New issuance of corporate bonds is up substantially and the yields on long-term bonds have remained fairly steady while yields on short-term securities have nosedived, according to the report, which looks at activity through the end of May.

In the year through May, total issuance of corporate bonds amounted to $182 billion, including asset-backed securities, or about $438 billion at an annualized rate, compared to only $291 billion issued in all of 1990.

The higher numbers also reflect changes last year in the Depository Trust Co.'s data collection system for medium-term notes, increasing cumulative corporate bond transactions reported.

The average value of institutional corporate bond trading in May reached $22.6 billion daily, compared with $22.3 billion in April and second only to February's record $23.1 billion.

Through the first five months, the daily value averaged a record $21.7 billion, up 38% from the previous peak of $15.7 billion daily average set for all of 1990.

Top 300 hit $2.4 trillion

Worldwide shift toward equities seen for many funds

By Margaret Price

At the end of 1990, the world's 300 largest pension funds had assets of about $2.4 trillion, a survey by *Pensions & Investments* and InterSec Research Corp., Stamford, Conn., reveals.

Of the largest 25 funds, with assets totaling more than $937 billion, 16 were U.S. funds, with three from Japan, two each from the United Kingdom and the Netherlands, and one each from Sweden and Singapore.

Data show investment styles of non-U.S. funds differ widely from those of U.S. funds on average. Although U.K. pension funds show a great propensity for equity investing, many other countries' funds still cling heavily to fixed income. Indeed, the $93.7 billion Algemeen Burgerlijk Pensioenfonds in Heerlen, the Netherlands — the world's largest pension fund — reported an 88% exposure to fixed income at year-end 1990. (See profile on page 20.)

The typical U.K. pension fund at the end of 1990 invested 72% in domestic and foreign equities, 15% in U.K. and overseas bonds and cash, 3% in indexed-linked bonds and 9% in real estate, according to the WM Co., Edinburgh, Scotland. As of Sept. 30, the top 200 U.S. defined benefit plans had 43.4% in stocks, 39.3% in fixed income, 7.4% in cash, 4.9% in equity real estate and 5% in other categories (*P&I*, Jan. 21).

But changes loom, particularly for funds that now heavily embrace fixed-income and, generally, domestic investing. Experts say that, increasingly, social, economic and political forces — ranging from the aging of the population to some governments' desires to shed some of their weighty pension obligations — are causing some funds to rethink their allocations.

Gordon Bagot, the WM Co.'s consultancy director, could see private Dutch funds, that averaged about 20% in equities last year, raising that level to about 50% by the end of the decade. And, among other countries, "Japan could be among those switching more heavily into equities," he said.

In Canada, pension funds are eagerly awaiting the green light to boost their foreign exposure — now capped at 10% of assets. Pending legislation would gradually lift allowable foreign investing to 20% of funds' book value of assets in 1994 (*P&I*, June 24.)

In continental Europe, however, the traditional investing conservatism won't wilt quickly. Few if any consultants expect these funds to replicate the level of equity investing British funds embrace. "Two things are holding back continental European funds: laws that still place restrictions on equities holdings and the fact that even now, funds often aren't investing up to their allowable limits," noted David Gallagher, vice president in the London office of InterSec Research.

WM Co.'s Gordon Bagot expects Dutch and Japanese funds to raise stock exposures.

InterSec projects major growth for all pension funds' foreign investing. InterSec foresees a rise to $734 billion in non-domestic investments, or 11% of assets, in 1995 — up from $347 billion or 8% of assets in 1990. InterSec expects the largest growth rate to come from U.S. funds, which should post a rise in 1995 to $252 billion in foreign assets, or 8% of total holdings, up from $93 billion, 4% of assets, in 1990.

Continental European funds' non-domestic holdings should rise to $104 billion, or 10% of assets in 1995, from $48 billion, or 7% of assets in 1990, InterSec said.

Japanese funds should have 12% of assets, or $128 billion invested abroad in 1995, up from 8% or $48 billion last year. But the already internationally invested British funds, with 26% of total assets overseas last year, should see foreign holdings inch down to 25% in 1995, even though total foreign assets will be $149 billion, up from $125 billion in 1990, InterSec projects.

Many experts expect British funds to remain wedded to equities — though some greater interest in bonds, especially non-U.K. bonds, has been emerging. "There's a substantial debate (in Britain) about whether or not (the current economic climate is) a traditional economic recovery," said John Kelly, a director and head of U.K. equities with BZW Investment Management, London. "If this is seen as a traditional recovery, there should be further moves into equities" by British funds. If not, bonds' appeal would brighten further, he noted.

BZW is the investment manager of Barclays Bank's $8.6 billion pension fund. Last year, that fund saw a substantial drop in its foreign equity holdings to 20.2% from 29.7% a year earlier. Mr. Kelly cited a number of factors for the change, especially the desire to take profits on foreign holdings to bolster U.K. equities investments, which totaled 53.4% at year's end. Mr. Kelly said certain political and economic events in the spring of 1990 made London's market "seem cheap on a global basis."

British Petroleum's $7.9 billion pension fund is now 70% in domestic and foreign equities — up from 67% at year's end. J.W. Martin, the fund's head of investments, said he'd like the fund to advance to a 75% equity exposure at some point. Citing equities' historical outperformance compared with bonds, Mr. Martin said, "we think that with more money in the bank, we'll be better able to meet our liabilities."

To him, bonds are a "poisoned chalice."

"History is littered with people who went into the bond market when they thought it was a good idea, over a six- to nine-month period. Five years later, they'd regretted it over most" of that time.

Last year, however, British Rail Pension Trustee Co. Ltd in London, with $13.124 billion in assets, found an opportunity with U.K. index-linked gilts for the closed, mature schemes it operates. "The purpose was to reduce the risk of schemes being unable to meet pension commitments at the turn of the century and beyond," explained David Adams, chief executive.

Using cash, the fund bought index-linked bonds with a yield to maturity of 4.25% to 4.5% above inflation, which was slightly higher than the inflation-plus-4% the fund's actuary had assumed was adequate.

Of the fund's total 14% U.K. bond exposure at year's end, 8.5% represented index-linked gilts. A year earlier, these index-linked investments represented about 2% of assets, Mr. Adams said.

Some Japanese pension funds took advantage of the change in pension law last year that allowed them to hire as investment managers companies other than trust banks and insurance companies.

The $8.8 billion Mutual Aid Association of Agriculture, Forestry and Fishery Corporation Personnel, for example, now uses 11 investment management firms other than banks and insurance companies. The $44 billion Japan Mutual Aid Association of Public School Teachers uses 14 investment management firms other than banks and insurance companies, including two non-Japanese firms and one joint venture. And the $12.8 billion Pension Fund Association fund uses 16 non-bank, non-insurance company managers including three non-Japanese firms. ■

In this issue's special report, *Pensions & Investments* takes a look at the largest pension funds in the world.

First we rank (in a joint project with InterSec Research Corp., Stamford, Conn.) the 300 largest pension funds in the world, and then we profile 28 of the largest non-U.S. pension funds.

P&I's international reporters — Margaret Price and Trudy Ring — compiled the information on the 28 pension funds from a variety of sources.

InterSec's listing was the starting point. Pension executives then were asked to complete a questionnaire, used to write the profiles that begin on page 20.

Additional information was gathered through the assistance of the Japan Bond Research Institute, Tokyo.

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P&I/InterSec World 300 (U.S. $ millions)

1.	Algemeen Burgerlijk	The Netherlands	93,710
2.	TIAA-CREF	U.S.	83,100
3.	Allmanna Pension	Sweden	70,990
4.	Pension Welfare Service	Japan	67,919
5.	California Employees	U.S.	54,000
6.	Public School Teachers	Japan	44,000
7.	New York State & Local	U.S.	43,737
8.	NYC Emply./Teachers	U.S.	40,763
9.	AT&T	U.S.	38,876
10.	General Motors	U.S.	36,300
11.	Nat'l Gov't Employees	Japan	34,114
12.	California Teachers	U.S.	30,140
13.	General Electric	U.S.	27,108
14.	New York Teachers	U.S.	26,689
15.	New Jersey	U.S.	26,609
16.	British Coal	U.K.	25,090
17.	IBM	U.S.	25,000
18.	Texas Teachers	U.S.	23,734
19.	Central Provident Fund	Singapore	23,500
20.	PGGM	The Netherlands	22,176
21.	British Telecom	U.K.	20,858
22.	Ford Motor	U.S.	20,800
23.	Ohio Employees	U.S.	20,595
24.	Florida State	U.S.	19,268
25.	Wisconsin State	U.S.	18,482
26.	Ohio State Teachers	U.S.	18,200
27.	Du Pont	U.S.	17,728
28.	North Carolina	U.S.	17,289
29.	Pa. Public Schools	U.S.	17,268
30.	State of Michigan	U.S.	17,268
31.	Ontario Teachers	Canada	17,242
32.	Employees Provident	Malaysia	17,100
33.	Electricity Supply	U.K.	15,630
34.	Caisse de Depot	Canada	14,820
35.	Local Public Service	Japan	14,544
36.	NYNEX	U.S.	14,383
37.	BellSouth	U.S.	14,125
38.	Bell Atlantic	U.S.	13,943
39.	Post Office	U.K.	13,780
40.	ATP	Denmark	13,359
41.	Ameritech	U.S.	13,241
42.	British Railways	U.K.	13,124
43.	NTT Mutual Aid	Japan	12,894
44.	Washington State	U.S.	12,839
45.	Pension Fund Assoc.	Japan	12,786
46.	University of California	U.S.	12,471
47.	Private School Teachers	Japan	12,161
48.	Minnesota State	U.S.	12,098
49.	GTE	U.S.	11,825
50.	Boeing	U.S.	11,600
51.	B.C. Superannuation	Canada	11,055
52.	Pacific Telesis	U.S.	10,896
53.	Maryland State	U.S.	10,761
54.	Ontario Municipal	Canada	10,750
55.	Virginia Retirement	U.S.	10,687
56.	Philips	The Netherlands	10,490
57.	Los Angeles County	U.S.	10,362
58.	Prefectural Gov't	Japan	10,276
59.	British Gas	U.K.	10,110
60.	Oregon Employes	U.S.	9,900
61.	Georgia Teachers	U.S.	9,871
62.	Rockwell Int'l	U.S.	9,715
63.	Eidgenossische Vers.	Switzerland	9,710
64.	Nat'l Police Personnel	Japan	9,595
65.	Pa. Employes	U.S.	9,485
66.	Central Teamsters	U.S.	9,398
67.	Western Teamsters	U.S.	9,292
68.	Colorado Employees	U.S.	9,195
69.	Universities Superann.	U.K.	9,120
70.	Eastman Kodak	U.S.	9,000
71.	Alabama Retirement	U.S.	8,827
72.	Agricultural Forest/Fish	Japan	8,817
73.	USX	U.S.	8,750
74.	Barclays Bank	U.K.	8,623
75.	U.N. Joint Staff	U.S.	8,591
76.	Shell	U.K.	8,310
77.	Southwestern Bell	U.S.	8,303
78.	Imperial Chemical	U.K.	8,299
79.	Illinois Teachers	U.S.	8,175
80.	Nat'l Westminster Bank	U.K.	8,160
81.	Tenn. Consolidated	U.S.	8,148
82.	U S WEST	U.S.	7,998
83.	Lockheed	U.S.	7,963
84.	United Technologies	U.S.	7,960
85.	British Petroleum	U.K.	7,913
86.	Connecticut Trust Funds	U.S.	7,902
87.	Exxon	U.S.	7,838
88.	New South Wales Super.	Australia	7,763
89.	S. Carolina Retirement	U.S.	7,728
90.	British Steel	U.K.	7,510
91.	Shell Oil	U.S.	7,501
92.	Deutscher Bank	Germany	7,430
93.	Shell	The Netherlands	7,350
94.	Arizona State	U.S.	7,234
95.	Sears, Roebuck	U.S.	7,186
96.	Chevron	U.S.	7,157
97.	McDonnell Douglas	U.S.	7,023
98.	Philip Morris	U.S.	6,963
99.	Federal Retirement	U.S.	6,890
100.	Ontario Public Service	Canada	6,730
101.	British Airways	U.K.	6,710
102.	Bouwnijverheid BPF	The Netherlands	6,700
103.	Mass. Teachers/Emply.	U.S.	6,650
104.	Hughes Aircraft	U.S.	6,300

Continued on page 27

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Mutual Aid Association of Agriculture, Forestry and Fishery Corporation Personnel

(U.S. $ millions)

Total pension assets 8,817

TOKYO — The Mutual Aid Association of Agriculture, Forestry and Fishery Corporation Personnel had assets of $8.817 billion as of March 31, 1990, the most recent date for which information was available.

The fund uses the following external managers: IBJ Investment, Nomura Investment, Yamaichi Capital Asset, Kankaku Investment, Nissei Capital, NKU Investment, LTCB Investment, Daiwa International, Nikko International, New Japan International and Tokio Marine, as well as domestic banks and insurance companies.

The information was supplied by the Japan Bond Research Institute.

Algemeen Burgerlijk Pensioenfonds

(U.S. $ millions)

Total pension assets	93,710
U.S. stocks	415
U.S. real estate	593
Internally managed assets	91,836
Indexed assets:	
Foreign stocks	700
Asset mix:	
Domestic stocks	3%
Domestic bonds	88%
Foreign stocks	2%
Domestic real estate	6%
Foreign real estate	1%

HEERLEN, Netherlands — Algemeen Burgerlijk Pensioenfonds had assets of $93.71 billion as of Dec. 31. Of that, 5% was in stocks, 88% in bonds and 7% in real estate.

Asset allocation and money manager selection are conducted in-house.

Jan Willen Goslings, member of the executive board, is a key person overseeing the pension fund.

Allmanna Pensionsfonden (1st, 2nd and 3rd Boards)

(U.S. $ millions)

Total pension assets	70,990
Internally managed assets	70,990
Asset mix:	
Domestic fixed income	85%
Real estate	2%
Loans	13%

STOCKHOLM, Sweden — Allmanna Pensionsfonden (1st, 2nd and 3rd Boards), the national Swedish pension fund, had assets of $70.99 billion as of Dec. 31. Of that, 85% was in fixed income, 2% in real estate and 13% in loans. The fund is managed internally.

Key personnel overseeing the pension fund are Carl Johan Aberg, president; Lars Aberg, head of fixed-income investing; Kaj Isaksson, head of lending activities; and Bo Boestad, head of real estate investing.

Arbejmarkedets Tillaegspension

(U.S. $ millions)

Total pension assets	13,359
Internally managed assets	13,359
Asset mix:	
Domestic stocks	12.8%
Domestic bonds	82.8%
Cash equivalents	0.1%
Foreign stocks	0.2%
Foreign bonds	0.3%
Domestic real estate	2.9%
Foreign real estate	0.1%
Loans	0.8%

HILLEROD, Denmark — Arbejmarkedets Tillaegspension had assets of $13.359 billion as of Dec. 31.

Of that, 13% was in stocks, 83.1% in bonds, 0.1% in cash, 3% in real estate and 0.8% in loans.

The key person overseeing the pension fund is Rolf Norstrand, general manager-finance and investments.

Barclays Bank (1964) Pension Fund

(U.S. $ millions)

Total pension assets	8,62
U.S. stocks	52
U.S. real estate	24
Internally managed assets	8,62
Indexed assets:	
Domestic stocks	3,14
Foreign stocks	394
Asset mix:	
Domestic stocks	53.4%
Domestic bonds	5.9%
Cash equivalents	6.1%
Foreign stocks	20.2%
Foreign bonds	1.2%
Domestic real estate	10.4%
Foreign real estate	2.8%

LONDON — Barclays Bank (1964) Pension Fund had assets of $8.623 billion as of Dec. 31. Of that, 73.6% was in stocks, 7.1% in bonds, 6.1% in cash, and 13.2% in real estate.

The fund is managed by BZW Investment Management, a wholly owned subsidiary of Barclays Bank PLC.

Key personnel overseeing the pension fund are Michael Mawdsley, pensions manager, and M. Wolfgang, director, BZW, investment manager.

Opportunities in post-1992 Europe will be discussed Oct. 28.

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British Coal Pension Funds

	(U.S. $ millions)
Total pension assets	25,090
U.S. stocks	965
U.S. real estate	77
Internally managed assets	25,090
Asset mix:	
Domestic stocks	52%
Domestic bonds	8%
Cash equivalents	5%
Foreign stocks	17%
Domestic real estate	13%
Foreign real estate	1%
Venture capital	4%

LONDON — The British Coal Pension Funds had assets of $25.09 billion as of Dec. 31. Of that, 69% was in stocks, 8% in bonds, 5% in cash, 14% in real estate and 4% in venture capital.

The fund is managed by an in-house investment group, CIN Management Ltd.

Key personnel overseeing the pension fund, all with CIN Management, are Paul M. Whitney, chief executive; Barry Southcott, managing director-marketable securities; Robert Juddery, managing director-property; and Robin Hall, managing director-venture capital.

Superannuation Commission for the Province of British Columbia

	(U.S. $ millions)
Total pension assets	11,055
Internally managed assets	10,996
Indexed assets:	
Domestic stocks	301

VICTORIA, British Columbia — The Superannuation Commission for the Province of British Columbia had assets of $11.055 billion as of Dec. 31.

The commission oversees eight separate funds. The $3.4 billion Public Service Superannuation Fund had 1% in stocks, 70% in bonds and 29% in cash. The $3.6 billion Municipal Superannuation Fund had 68% in bonds and 32% in cash. The $2.7 billion Teachers' Pension Fund had 15% in stocks, 53% in bonds and 32% in cash. The $141 million Workers' Compensation Board Pension Fund had 83% in bonds and 17% in cash. The $200 million Rail Pension Fund had 21% in stocks, 52% in bonds and 27% in cash. The $734 million Hydro Pension Fund had 6% in stocks, 61% in bonds and 33% in cash. The $2.7 million Members of the Legislative Assembly Pension Fund had 27% in bonds and 73% in cash. The $260 million College Pension Fund had 14% in stocks, 51% in bonds and 35% in cash.

All funds are managed entirely in-house except British Columbia Hydro, which has $675 million managed internally and uses Royal Trust as external manager for the remainder.

Dan Russell, portfolio manager-bonds, and Keith Watson, portfolio manager-equities, are key personnel overseeing all but the Workers' Compensation Board fund. Paul Lee, controller, oversees that fund.

British Gas Pension Funds

	(U.S. $ millions)
Total pension assets	10,110
U.S. stocks	520
U.S. real estate	94
Internally managed assets	9,120
Indexed assets:	
Domestic stocks	108
Asset mix:	
Domestic stocks	55.8%
Domestic bonds	6.7%
Cash equivalents	6.2%
Foreign stocks	16.3%
Foreign bonds	2.1%
Domestic real estate	8.4%
Foreign real estate	1.2%
Index-linked bonds	3.3%

LONDON — British Gas Pension Funds had assets of $10.11 billion as of Dec. 31. Of that, 72.1% was in stocks, 8.8% in bonds, 6.2% in cash, 9.6% in real estate and 3.3% in index-linked bonds.

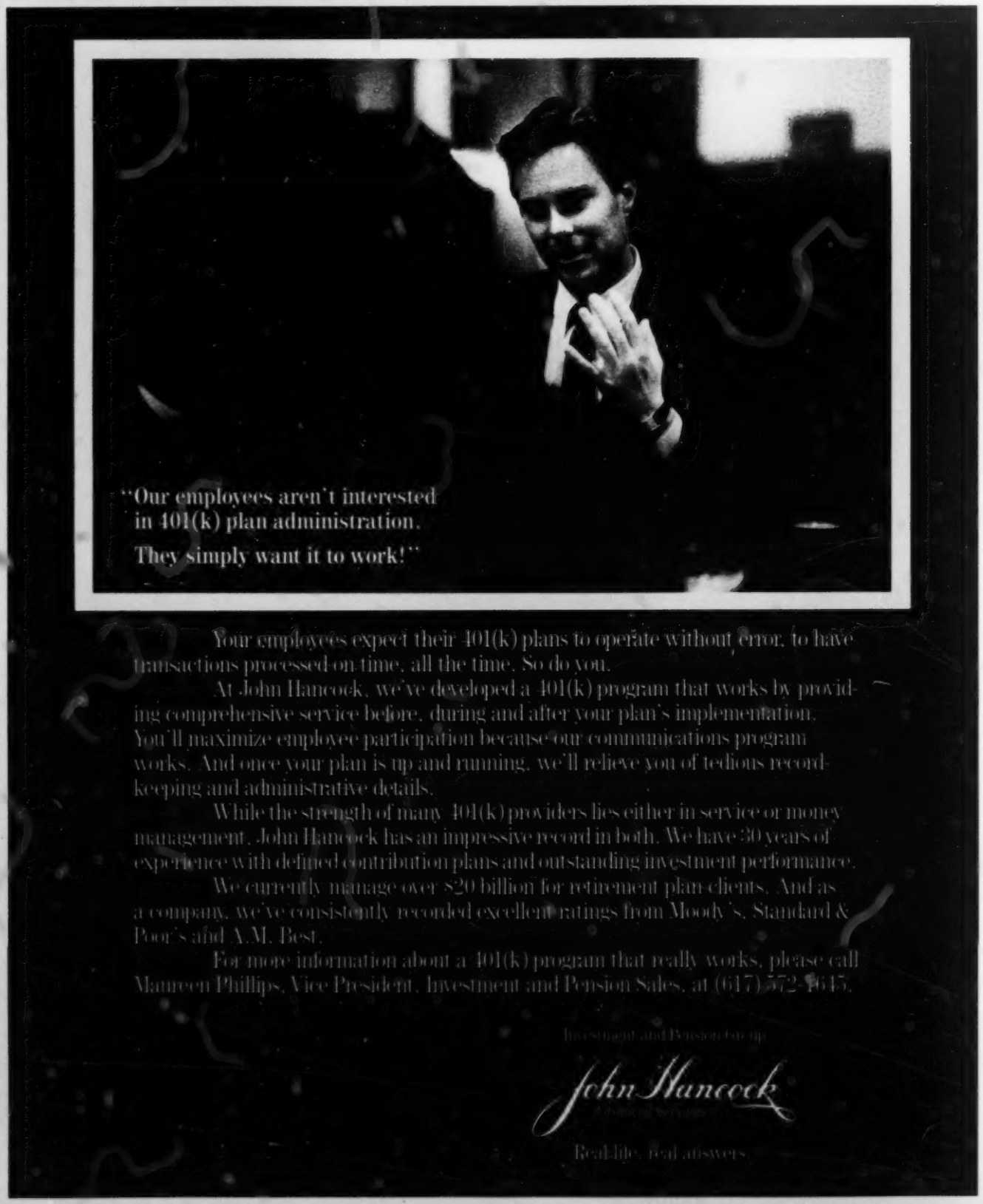
The fund uses the following external managers: Nomura; Fleming; Weatherall Green & Smith; and Stiles Harold Williams. Lazard Investors is the fund's adviser.

Key personnel overseeing the pension fund are Roy Peters, head of pension fund investments, and David Stuart, investment manager.

British Petroleum Pension Fund

	(U.S. $ millions)
Total pension assets	7,913
U.S. stocks	425
U.S. real estate	87
Internally managed assets	7,913
Asset mix:	
Domestic stocks	47%
Domestic bonds	5%
Cash equivalents	4%
Foreign stocks	20%
Foreign bonds	1%
Domestic real estate	22%
Foreign real estate	1%

LONDON — British Petroleum Pension Fund had assets of $7.913 billion as of Dec. 31. Of that, 67% was in stocks; 6% in bonds; 4% in cash; and 23% in real estate.



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External advisers to the fund for asset allocation and market timing are J. Manser of Robert Fleming; Michael Hart, Foreign & Colonial Trust; James Tuckey, Metropolitan Estates & Property Co.; and John Gardiner, of Laird Group.

J.W. Martin, head of investments, oversees the pension fund.

British Rail Pension Trustee Co. Ltd.

	(U.S. $ millions)
Total pension assets	13,124
U.S.stocks	984
U.S. bonds	39
U.S. real estate	367
Asset mix:	
Domestic stocks	49%
Domestic bonds	14%
Cash equivalents	4%
Foreign stocks	20%
Foreign bonds	2%
Domestic real estate	8%
Foreign real estate	3%

LONDON — British Rail Pension Trustee Co. Ltd. had assets of $13.124 billion as of Dec. 31. Of that, 69% was in stocks, 16% in bonds, 4% in cash and 11% in real estate.

The fund uses the following external managers: Mercury Asset; Morgan Grenfell; Phillips & Drew; Prudential Assurance; and Robert Fleming. Jones Lang Wootton is the real estate adviser.

The fund uses actuary R. Watson & Sons to augment its in-house asset allocation and money manager selection.

Key personnel overseeing the pension fund are David Adams, chief executive, and Peter Stanyer, investment director.

Pensions & Investments' annual directory of real estate investment managers will be published in the Sept. 16 issue.

British Telecommunications Staff Superannuation Scheme

	(U.S. $ millions)
Total pension assets	20,858
U.S. stocks	818
U.S. real estate	305
Indexed assets:	
Domestic stocks	9,110
Foreign stocks	1,009
Asset mix:	
Domestic stocks	52%
Domestic bonds	14%
Cash equivalents	5%
Foreign stocks	10%
Foreign bonds	1%
Domestic real estate	15%
Foreign real estate	3%

LONDON — British Telecommunications Staff Superannuation Scheme had assets of $20.858 billion as of Dec. 31. Of that, 62% was in stocks; 15% in bonds; 5% in cash; and 18% in real estate.

PosTel Investment Management Ltd. is the principal investment manager of the fund. Other managers are Mercury Asset and Schroder Investment.

Key personnel overseeing the pension fund are M.J. Reed, secretary; Sir Douglas Morpeth, chairman of the trustees; and PosTel officials, R.N. Quartano, chairman, and Andrew Threadgold, chief executive.

Caisse de Depot et Placement du Quebec

	(U.S. $ millions)
Total pension assets	31,257
U.S. stocks	1,034
U.S. bonds	1,293
Internally managed assets	28,965
Indexed assets:	
Domestic stocks	690
Foreign stocks	1,293
Asset mix:	
Domestic stocks	27.9%
Domestic bonds	44.7%
Cash equivalents	2.1%
Foreign stocks	8.9%
Foreign bonds	5.1%
Domestic real estate	5.5%
Mortgages	5.8%

MONTREAL — The Caisse de Depot et Placement du Quebec had assets of $31.259 billion as of Dec. 31. Of that, 36.8% was in stocks, 49.8% in bonds, 2.1% in cash, 5.5% in real estate and 5.8% in mortgages.

The fund uses the following external managers: State Street Bank & Trust; HD International; Dunedin Fund Managers; Warburg International; Yamaichi International; Trust General du Canada; Fiducie Desjardins; and Trust Pret et Revenus.

Key personnel overseeing the pension fund are Michel Nadeau, senior vice president-stock market and investment planning; Claude Ferland, senior vice president-fixed-income investments; Daniel Paille, senior vice president-corporate investments; Jean-Claude Scraire, senior vice president-real estate investments; and Yves Moquin, vice president-asset mix.

Electricity Supply Pension Scheme

	(U.S. $ millions)
Total pension assets	15,630
U.S.stocks	1,235
U.S. real estate	270
Internally managed assets	15,000
Asset mix:	
Domestic stocks	53%
Domestic bonds	8%
Cash equivalents	6%
Foreign stocks	21%
Domestic real estate	10%
Foreign real estate	2%

LONDON — Electricity Supply Pension Scheme had assets of $15.63 billion as of Dec. 31. Of that, 74% was in stocks, 8% in bonds, 6% in cash and 12% in real estate.

The fund uses the following external managers: Fleming and Nomura for Far East equities; and Hill Samuel and Lloyds Investment for small U.K. companies.

Michael Cannan is the chief executive.

Imperial Chemical Industries

	(U.S. $ millions)
Total pension assets	8,299
U.S. stocks	427
Internally managed assets	8,299 billion
Asset mix:	
Domestic stocks	51.3%
Domestic bonds	11.7%
Cash equivalents	6.2%
Foreign stocks	11.1%
Foreign bonds	1.5%
Domestic real estate	14.6%
Foreign real estate	1.4%
Unlisted equities	2.2%

LONDON — The Imperial Chemical Industries PLC pension fund had assets of $8.299 billion as of Dec. 31. Of that, 62.4% was in stocks; 13.2% in bonds; 6.2% in cash; 16% in real estate; and 2.2% in unlisted equities.

Manager selection and asset allocation are handled in-house by ICI Investment Management Ltd.

Key personnel at ICI Investment Management Ltd. overseeing the pension fund are Tom Heyes, managing director, and Graham K. Allen, investment director.

Japan Mutual Aid Association of Public School Teachers

	(U.S. $ millions)
Total pension assets	44,000

TOKYO — The Japan Mutual Aid Association of Public School Teachers had assets of $44 billion as of March 31, 1990, the most recent date for which figures were available.

The fund uses the following external managers: IBJ Investment, LTCB Investment, Fuji Investment, Yamaichi Capital, Kokusai Investment, Wako International Capital, Sanyo Investment, SB Investment, Yasuda Capital, Tokio Marine, Yasudakasai-Brinson, NKU Investment, Jardine Fleming and Merrill Lynch, as well as domestic banks and insurance companies.

The information was supplied by the Japan Bond Research Institute.

Investment software: Sept. 2.

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National Union of Local Public Service Personnel Mutual Aid Association

(U.S. $ millions)

Total pension assets 14,544

TOKYO — The National Union of Local Public Service Personnel Mutual Aid Association had assets of $14.544 billion as of March 31, 1990, the latest date for which information was available.

The fund uses the following external managers: Nomura Investment, Nikko International, Daiwa International, Yamaichi International, LTCB Investment, DKB Investment, Nissei Investment and SB Investment.

The information was supplied by the Japan Bond Research Institute.

Federation of National Public Service Affiliated Personnel Mutual Aid Association

(U.S. $ millions)

Total pension assets 34,114

TOKYO — The Federation of National Public Service Affiliated Personnel Mutual Aid Association had assets of $34.114 billion as of March 31, 1990, the most recent date for which figures were available.

The information was supplied by the Japan Bond Research Institute.

State Authorities Superannuation Board of New South Wales

(U.S. $ millions)

Total pension assets	7,763
U.S. stocks	242
U.S. bonds	4
Internally managed assets	6,658
Indexed assets:	
Domestic stocks	150
Foreign stocks	147
Asset mix:	
Domestic stocks	25.6%
Domestic bonds	20.3%
Cash equivalents	5.8%
Foreign stocks	13%
Domestic real estate	35.3%

SYDNEY, Australia — The State Authorities Superannuation Board of New South Wales had assets of $7.763 billion as of Dec. 31. Of that, 38.6% was in stocks, 20.3% in bonds, 5.8% in cash and 35.3% in real estate.

Frank Russell Co. advises the fund on asset allocation and money manager selection.

Key personnel overseeing the pension fund are Wal Archer, acting president, and Shawn Mays, general manager-investments.

NTT Mutual Association

(U.S. $ millions)

Total pension assets 12,894

TOKYO — The NTT Mutual Association had assets of $12.894 billion as of March 31, 1990, the most recent date for which information was available.

The data were supplied by the Japan Bond Research Institute.

Ontario Teachers' Pension Plan

(U.S. $ millions)

Total pension assets	17,242
Internally managed assets	15,518
Indexed assets	
Domestic stocks	517
Foreign stocks	690
Asset mix:	
Domestic stocks	3%
Domestic bonds	87%
Cash equivalents	6%
Foreign stocks	4%

TORONTO — The Ontario Teachers' Pension Plan had assets of $17.242 billion as of Dec. 31. Of that, 7% was in stocks, 87% in bonds and 6% in cash.

TPF&C advises the fund on asset allocation and money manager selection.

Key person overseeing the pension fund is R.G. Bertram, senior vice president-investments.

Pension Fund Association

(U.S. $ millions)

Total pension assets 12,786

TOKYO — The Pension Fund Association had assets of $12.786 billion as of Dec. 31.

The fund uses several external managers as follows:

Banks — Mitsubishi, Yasuda, Toyo, Chuo, Sumitomo, Mitsui, Daiwa, Nippon, Barclays, Nihon Bankers Trust and Morgan Guaranty.

Insurance companies — Nihon, Sumitomo, Asahi, Chiyoda, Dai-ichi, Meiji, Yasuda and Mitsui.

Investment management companies — Nomura, Daiwa, Nikko, Yamaichi, SB, Sanwa, Fuji, DKB, Diamond, Mitsui Taiyo-Kobe, IBJ, LTCB, Jardine Fleming, Fidelity and Warburg.

The information was provided by the Japan Bond Research Institute.

Pension Welfare Service Public Corp.

(U.S. $ millions)

Total pension assets 67,919

TOKYO — The Pension Welfare Service Public Corp. had assets of $67.919 billion as of March 31.

The fund uses the following external managers:

Banks — Mitsubishi, Sumitomo, Yasuda, Mitsui, Toyo, Daiwa, Chuo, Nippon, Bankers Trust, City Trust, Barclays, Credit Suisse, Chemical and Morgan Guaranty.

Insurance companies — Nihon, Daiichi, Sumitomo, Meiji, Asahi, Yasuda, Chiyoda, Mitsui, Toho, Daido, Hukoku, Daihyaku, Kyoei, Nissan, Tokyo, Nihondantai, Taiyo and Heiwa.

The information was supplied by the Japan Bond Research Institute.

Pensioenfonds PGGM

(U.S. $ millions)

Total pension assets	22,176
U.S. stocks	1,033
U.S. bonds	186
U.S. real estate	809
Internally managed assets	11,327
Indexed assets:	
Domestic stocks	195
Foreign stocks	1,708
Asset mix:	
Domestic stocks	1.46%
Domestic bonds	63.7%
Cash equivalents	2.62%
Foreign stocks	12.79%
Foreign bonds	2.42%
Domestic real estate	6.42%
Foreign real estate	10.17%
Venture capital	0.42%

ZEIST, Netherlands — Pensioenfonds PGGM had assets of $22.176

P&I/InterSec World 300

Continued from page 19

105.	Texas Employees	U.S.	6,242
106.	Lloyds Bank	U.K.	6,180
107.	Procter & Gamble	U.S.	6,078
108.	General Dynamics	U.S.	6,069
109.	Prudential Insurance	U.S.	5,856
110.	Tokyo-to Public Service	Japan	5,820
111.	Missouri Public Schools	U.S.	5,800
112.	Allied-Signal	U.S.	5,770
113.	Westinghouse Electric	U.S.	5,554
114.	Lonmodiagernes Dyrtids	Denmark	5,540
115.	Canadian Nat'l Rail	Canada	5,510
116.	Metaalindustrie BPF	The Netherlands	5,470
117.	Metaalnijverheid BPF	The Netherlands	5,400
118.	Nederlandse Spoorwegen	The Netherlands	5,290
119.	Bayerische Arztever.	Germany	5,110
120.	Chrysler	U.S.	5,096
121.	Bell Canada	Canada	4,950
122.	Iowa Employees	U.S.	4,916
123.	State Service Super. (Qld)	Australia	4,770
124.	United Mine Workers	U.S.	4,759
125.	Commonwealth Funds	Australia	4,710
126.	Mobil Oil	U.S.	4,675
127.	Amoco	U.S.	4,665
128.	Midland Bank	U.K.	4,550
129.	Unisys	U.S.	4,534
130.	Alaska State	U.S.	4,430
131.	Hospitals of Ontario	Canada	4,400
132.	Unilever	U.K.	4,360
133.	San Francisco	U.S.	4,331
134.	Mississippi Employees	U.S.	4,319
135.	Illinois Municipal	U.S.	4,239
136.	Caterpillar	U.S.	4,221
137.	SBB	Switzerland	4,220
138.	All Japan Mutual Credit	Japan	4,190
139.	Pacific Gas & Electric	U.S.	4,172
140.	Strathclyde Regional	U.K.	4,130
141.	Hawaii Employees	U.S.	4,119
142.	Greater Manchester Cty.	U.K.	4,110
143.	Merchant Navy	U.K.	4,080
144.	Monsanto	U.S.	4,055
145.	General Electric	U.K.	4,030
146.	Bayer AG	Germany	4,000
147.	Dow Chemical	U.S.	4,000
148.	United Airlines	U.S.	4,000
149.	Ford Motor	U.K.	3,980
150.	Delta Air Lines	U.S.	3,977
151.	Illinois State Universities	U.S.	3,959
152.	British Broadcasting	U.K.	3,930
153.	Detroit City	U.S.	3,925
154.	UNIRS	France	3,910
155.	Lucas Industries	U.K.	3,860
156.	KLM	The Netherlands	3,850
157.	Utah State	U.S.	3,850
158.	American Airlines	U.S.	3,800
159.	Prudential	U.K.	3,790
160.	Migros	Switzerland	3,770
161.	Kansas Employees	U.S.	3,751
162.	Georgia Employees	U.S.	3,750
163.	British Aerospace	U.K.	3,710
164.	Nat'l Elec. Contractors	U.S.	3,692
165.	CIBA-GEIGY	Switzerland	3,690
166.	City of Zurich	Switzerland	3,690
167.	Grafische BPF	The Netherlands	3,690
168.	Kentucky Teachers	U.S.	3,678
169.	Chicago Teachers	U.S.	3,611
170.	Baugewerbe ZVK	Germany	3,590
171.	Atlantic Richfield	U.S.	3,575
172.	Ontario Hydro	Canada	3,530
173.	L.A. Fire & Police	U.S.	3,459
174.	United Methodists	U.S.	3,459
175.	Louisiana Teachers	U.S.	3,457
176.	Canton of Zurich	Switzerland	3,450
177.	Commonwealth Banking	Australia	3,440
178.	Metropolitan Life	U.S.	3,395
179.	Hoechst AG	Germany	3,390
180.	RJR Nabisco	U.S.	3,364
181.	Southern Co. Services	U.S.	3,350
182.	Xerox	U.S.	3,333
183.	Nevada Employees	U.S.	3,308
184.	Northrop	U.S.	3,304
185.	Kentucky Retirement	U.S.	3,300
186.	Martin Marietta	U.S.	3,300
187.	Texaco	U.S.	3,300
188.	TSB Group	U.K.	3,300
189.	Minn. Mining & Mfg.	U.S.	3,288
190.	Canadian Pacific	Canada	3,280
191.	ALCOA	U.S.	3,270
192.	IBM Deutschland	Germany	3,270
193.	Consolidated Edison	U.S.	3,257
194.	Coop Schweiz	Switzerland	3,250
195.	State Farm	U.S.	3,240
196.	World Bank	U.S.	3,171
197.	W. Midlands Met.	U.K.	3,130
198.	Indiana Employees	U.S.	3,104
199.	Grumman	U.S.	3,101
200.	Ohio Police & Firemen	U.S.	3,101
201.	Bethlehem Steel	U.S.	3,080
202.	Illinois State Board	U.S.	3,045
203.	London Reg'l Transport	U.K.	3,020
204.	West Yorkshire	U.K.	3,010
205.	ITT	U.S.	2,990
206.	SSIH	Switzerland	2,990
207.	Raytheon	U.S.	2,982
208.	J.C. Penney	U.S.	2,964
209.	Textron	U.S.	2,961
210.	Imperial Group	U.K.	2,880
211.	London Pension Funds	U.K.	2,850
212.	Honeywell	U.S.	2,839
213.	Tenn. Valley Authority	U.S.	2,834
214.	Ohio School Employees	U.S.	2,824
215.	Tenneco	U.S.	2,824
216.	Rover Group	U.K.	2,820
217.	TRW	U.S.	2,783
218.	Hydro Quebec	Canada	2,770
219.	Aetna Life & Casualty	U.S.	2,758
220.	Massachusetts PRIM	U.S.	2,700
221.	Hitachi	Japan	2,690
222.	Southern Baptist	U.S.	2,680
223.	Int'l Paper	U.S.	2,673
224.	Eli Lilly	U.S.	2,670
225.	Matsushita Electric	Japan	2,650
226.	Los Angeles City	U.S.	2,620
227.	Union Carbide	U.S.	2,608
228.	IBM	U.K.	2,590
229.	Onderling BPF	The Netherlands	2,590
230.	Hoogovens	The Netherlands	2,580
231.	Deere	U.S.	2,450
232.	Phillips Petroleum	U.S.	2,450
233.	Allied-Lyons	U.K.	2,440
234.	Unilever	The Netherlands	2,440
235.	Sun Alliance Insurance	U.K.	2,400
236.	Texas Municipal	U.S.	2,400
237.	Toshiba	Japan	2,400
238.	Boilermaker-Blacksmiths	U.S.	2,395
239.	Canton of Geneva	Switzerland	2,380
240.	Rolls-Royce	U.K.	2,330
241.	Owens-Illinois	U.S.	2,326
242.	Rhode Island	U.S.	2,322
243.	BASF	Germany	2,300
244.	Presbyterian Church	U.S.	2,300
245.	S. California Edison	U.S.	2,300
246.	Texas County & District	U.S.	2,297
247.	Trans World Airlines	U.S.	2,282
248.	Halliburton	U.S.	2,260
249.	BP America	U.S.	2,235
250.	Louisiana State	U.S.	2,234
251.	Arkansas Teachers	U.S.	2,216
252.	Abbott Laboratories	U.S.	2,210
253.	Met. Borough of Wirral	U.K.	2,190
254.	Central Electricity Cos.	Switzerland	2,180
255.	Air Canada	Canada	2,160
256.	C.R.P.N.C.P.	France	2,140
257.	STC	U.K.	2,130
258.	Nat'l Rural Elec. Co-op	U.S.	2,120
259.	Int'l Op. Engineers	U.S.	2,114
260.	BTR	U.K.	2,110
261.	DSM	The Netherlands	2,110
262.	Koopvaardij BPF	The Netherlands	2,110
263.	Mijnwerkers (Limburg)	The Netherlands	2,110
264.	Oklahoma Teachers	U.S.	2,097
265.	S. Calif. Food/Comm.	U.S.	2,073
266.	Bakery/Confectionery	U.S.	2,070
267.	Chicago Municipal	U.S.	2,068
268.	Philips	U.K.	2,040
269.	Sygehjaelpere mfl	Denmark	2,040
270.	Canton of Bern	Switzerland	2,030
271.	Commonwealth Edison	U.S.	2,029
272.	United Parcel Service	U.S.	2,026
273.	Akzo	The Netherlands	2,020
274.	Motorola	U.S.	2,019
275.	PPG Industries	U.S.	2,011
276.	Citibank	U.S.	2,006
277.	Navistar	U.S.	2,005
278.	Asea Brown Boveri	Switzerland	2,000
279.	Indiana State Teachers	U.S.	2,000
280.	Armco	U.S.	1,995
281.	New Mexico Educational	U.S.	1,990
282.	Anheuser-Busch	U.S.	1,986
283.	Huisartsen BPF	The Netherlands	1,980
284.	Travelers Insurance	U.S.	1,980
285.	Thorn EMI	U.K.	1,970
286.	Allianz Versicherungs	Germany	1,960
287.	Civil Aviation Authority	U.K.	1,960
288.	PTT Nederland	The Netherlands	1,950
289.	Swissair	Switzerland	1,950
290.	Canton of Vaud	Switzerland	1,950
291.	Magistre	Denmark	1,940
292.	Victoria State Superann.	Australia	1,930
293.	General Motors Canada	Canada	1,900
294.	Japan Securities Dealers	Japan	1,880
295.	Laegernes	Denmark	1,870
296.	New Mexico Employees	U.S.	1,860
297.	American Stores	U.S.	1,854
298.	Episcopal Church	U.S.	1,850
299.	L.A. Water & Power	U.S.	1,850
300.	Inland Steel	U.S.	1,848

billion as of Dec. 31. Of that, 14.25% was in stocks, 66.12% in bonds, 2.62% in cash, 16.59% in real estate, and 0.42% in venture capital.

A key person overseeing the pension fund is D.J. de Beus, chairman of the board of managing directors.

Philips Pension Funds

	(U.S. $ millions)
Total pension assets	10,490
U.S. stocks	700
U.S. bonds	110
U.S. real estate	266
Internally managed assets	9,900
Indexed assets:	
Foreign stocks	100
Asset mix:	
Domestic stocks	7%
Domestic bonds	22%
Cash equivalents	2%
Foreign stocks	16%
Foreign bonds	5%
Domestic real estate	11%
Foreign real estate	5%
Other	32%

EINDHOVEN, Netherlands — Philips Pension Funds had assets of $10.49 billion as of Dec. 31. Of that, 23% was in stocks, 27% was in bonds, 2% in cash, 16% in real estate and 32% in private loans and mortgages.

The fund uses the following external managers: G.T. Capital Management; Jardine Fleming; Mercury Asset; J.P. Morgan; Morgan Grenfell; Pacific Asset; Daiwa (Alpha Price Theories Fund); and Nikko (Japan Industries Fund).

Asset allocation and money manager selection are handled in-house.

Key personnel overseeing the pension fund are D. Snijders, president, and J. van der Vliet, director.

Police Personnel Mutual Aid Association

	(U.S. $ millions)
Total pension assets	9,595

TOKYO — The Police Personnel Mutual Aid Association had assets of $9.595 billion as of March 31, 1990, the most recent date for which information was available.

The fund uses the following external managers: LTCB Investment, Nikko International, Nomura Investment, and Daiwa Investment, as well as domestic banks and insurance companies.

The information was supplied by the Japan Bond Research Institute.

Post Office Staff Superannuation Scheme

	(U.S. $ millions)
Total pension assets	13,780
U.S. stocks	519
U.S. real estate	197
Indexed assets:	
Domestic stocks	5,960
Foreign stocks	652
Asset mix:	
Domestic stocks	52%
Domestic bonds	13%
Cash equivalents	6%
Foreign stocks	10%
Foreign bonds	1%
Domestic real estate	15%
Foreign real estate	3%

LONDON — Post Office Staff Superannuation Scheme had assets of $13.78 billion as of Dec. 31. Of that, 62% was in stocks; 14% in bonds; 6% in cash; and 10% in real estate.

PostTel Investment Management Ltd. is the principal manager of the fund. Other managers are Mercury Asset and Schroder Investment.

Key personnel overseeing the pension fund are M.C. Duncombe, secretary; R.A. Cox, chairman of the trustees; and, with PosTel, R.N. Quartano, chairman, and Andrew Threadgold, chief executive.

Prefectural Government Mutual Aid Association

	(U.S. $ millions)
Total pension assets	10,276

TOKYO — The Prefectural Government Mutual Aid Association had assets of $10.276 billion as of March 31.

The fund uses the following external managers: Nomura Investment, Nikko International, Daiwa International, Yamaichi International and LTCB Investment, as well as domestic banks and insurance companies.

The information was supplied by the Japan Bond Research Institute.

Mutual Aid Association of Private School Personnel

	(U.S. $ millions)
Total pension assets	12,161

TOKYO — The Mutual Aid Association of Private School Personnel had assets of $12.161 billion as of March 31.

The information was supplied by the Japan Bond Research Institute.

Investment management consultants will be profiled in the Nov. 11 issue of *Pensions & Investments*.

Small-plan audits scaled back

ASPA victorious by keeping up heat

The Internal Revenue Service is retreating on its small-plan auditing program.

The program has been under relentless attack by the American Society of Pension Actuaries, a Washington-based trade association. The ASPA claims the program was designed to raise $666 million in revenue by retroactively imposing arbitrary actuarial assumptions on pension plans with five or fewer participants between 1986 and 1988.

This spring, the government dropped its appeal of a court ruling ordering the IRS to hand over documents related to the program to the ASPA and pared its examinations to less than 12,000 employers from 18,000.

The IRS said June 18 it would ignore penalties or certain excise taxes on small employers whose plan contributions had been challenged under the program. Employers have until March 31, 1992, to take up the IRS' offer — before key test cases brought under the program are likely to be resolved.

Now, a Treasury Department appropriations bill passed by the Senate would require the General Accounting Office to study the small-plan program. The House bill does not contain an equivalent provision, but Chester Salkind, the ASPA's executive director, is optimistic House conferees will support the Senate provision.

In supporting an amendment by Sen. Dennis DeConcini, D-Ariz., requiring the study, Sen. Robert Kasten, R-Wis., criticized the program for unfairly punishing small employers. "Not only is it affecting employers whose deductions are being disallowed, but it is sending a message to all small businesses to be wary of establishing a pension plan. This is clearly contrary to elemental fairness and to the goal of providing broader coverage under the private pension system."

An IRS spokeswoman declined to comment on the pending legislation. ■

WHO JUST WON A BILLION DOLLAR VOTE OF CONFIDENCE?

Turning distress into profits

By Marlene Givant Star

The number of distressed and bankrupt securities will snowball in the 1990s as more high-yield issuers default, offering potential returns as high as 40% or more to seasoned "vulture" investors.

That's the message Phillip Schaeffer, senior vice president of Robert Fleming Inc., New York, is delivering to U.K. pension fund clients of the firm.

"Business schools teach that in order for a business to be exceedingly profitable, it should have focus, significant competitive advantages and relatively few competitors. The distressed investing business has all three," said Mr. Schaeffer, who manages distressed securities for Fleming's own account.

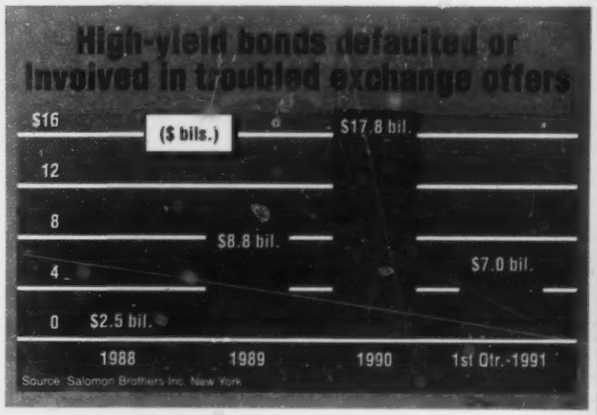
"We believe the excessive debt created in the 1980s will generate a large number of defaults and bankruptcies in the 1990s. The Allied Stores Corp./Federated Department Stores Inc. bankruptcy filing in January 1990 began this torrent, which is continuing," he said.

In 1980, $7 billion of high-yield bonds had been issued by American companies; by the end of the decade, the total exceeded $220 billion.

The leveraged buy-out boom of the 1980s has fueled unprecedented defaults. High-yield bonds with a principal amount of $2.6 billion defaulted or were involved in troubled exchange offers in 1988; that amount increased to $17.8 billion in 1990. In the first quarter of 1990 alone, the total was $7 billion.

Of the more than 200 major leveraged buy-outs financed through the high-yield market in the 1980s, many have not met their subsequent income and cash flow goals. Consequently, they are overleveraged relative to their lower-than-expected operating results, Mr. Schaeffer said.

Many are facing "critical event dates," which result from debt maturities; sinking fund payments; reset provisions; payment-in-kind securities going to cash payments; and zero-coupon bonds going to full-pay coupon bonds.



According to a Salomon Brothers Inc. survey of highly leveraged companies, about $49 billion of securities have critical event dates between 1992 and 1994.

"We believe that many of these issuers will default in respect of the action required on the critical event date, thereby creating huge amounts of defaulted debt over this time period," he said.

1991 will be another record year for defaults, he predicts.

"The significant supply of distressed, defaulted and bankruptcy-related debt will continue to overwhelm the limited amount of funds available for investment in such areas, providing opportunities to purchase debt at compelling price levels and allowing the long-term investor to make substantial returns," Mr. Schaeffer said.

He said returns are attractive because of the market's abundant inefficiencies. Investors who find themselves owners of distressed securities do not understand or want to participate in the market and frequently sell at prices substantially below the investments' cost, but at prices that are alluring to experienced distressed security investors.

"Distressed investing requires skills involving bankruptcy law, experience and knowledge of the reorganization process and personal contacts. Consequently, the relatively small number of experienced distressed security investors have a significant advantage over other investors who do not have such expertise, knowledge and experience," he said.

Mr. Schaeffer began investing in the budding field six years ago. He prefers to invest in otherwise healthy companies that merely have too much debt, such as Allied/Federated, or those with an isolated problem or event that can be rectified, i.e. asbestos in the case of Manville Corp., or product defects in the case of A.H. Robins Co. Inc.

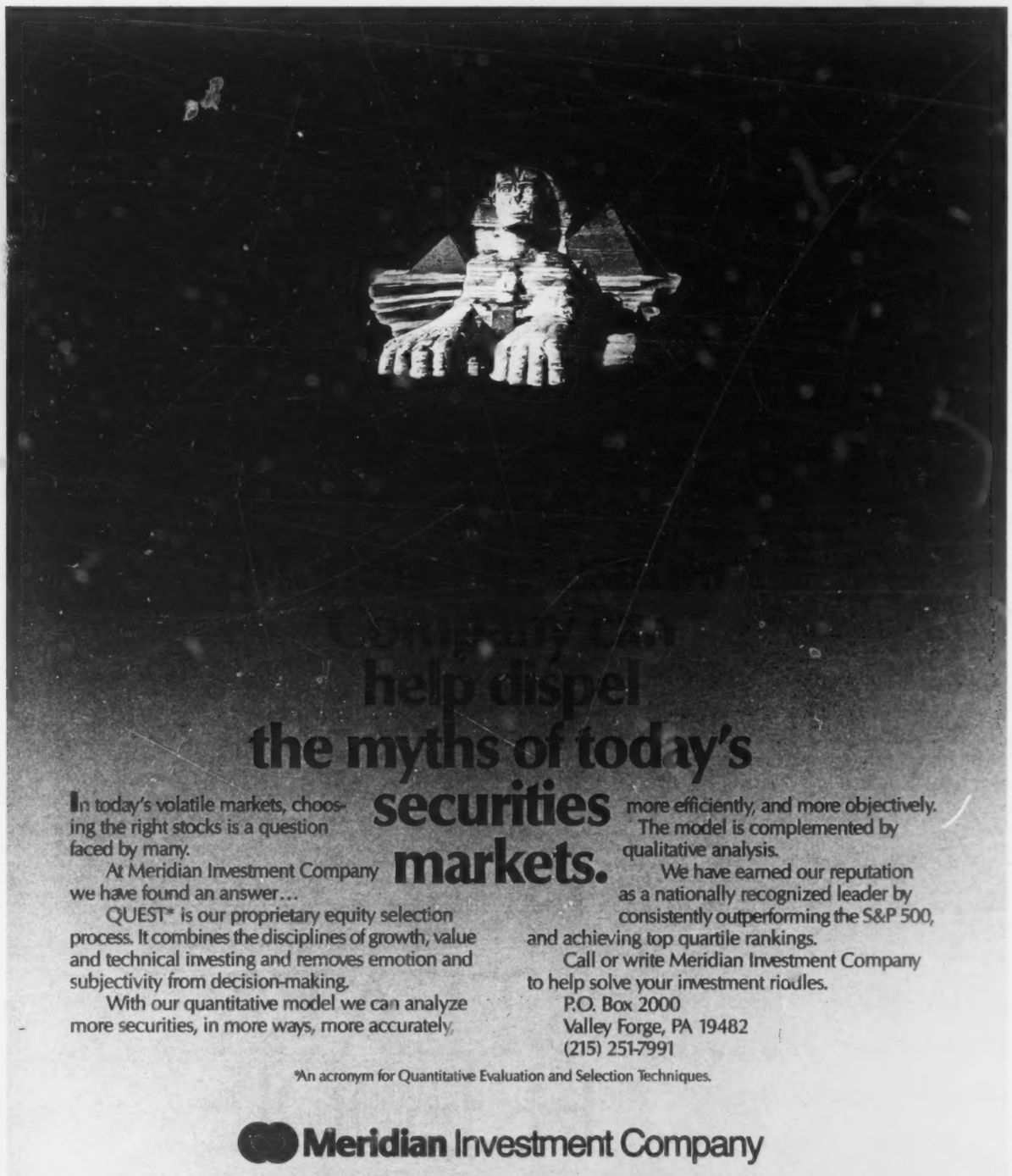
He avoids companies with bad industry or company conditions, poor management or fraud, such as Integrated Resources Inc., Revco D.S. Inc. and Crazy Eddie Inc., respectively.

"I don't like to invest in disasters just because they're cheap," he said.

Investing in bankrupt or distressed companies used to carry with it the substantial risk that the company would go through a liquidation instead of a reorganization. Bankrupt companies in the United Kingdom tend to liquidate even today.

In the United States, however, that is not the case.

U.S. bankruptcy laws were changed in 1978 in ways that encouraged bankrupt companies to reorganize, making "investing in American bankrupt and distressed companies much more interesting and financially rewarding," he said. ■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Using past to gauge future

Sharpe finds manager styles tend to hold true to form

By Chuck Paustian

Evaluating active managers — in terms of both style and performance — has been an elusive endeavor confounding many executives who oversee investment pools.

William F. Sharpe, chairman of William F. Sharpe Associates, a consulting firm for pension funds, endowments and foundations in Los Altos, Calif., and co-recipient of the 1990 Nobel Memorial Prize in Economic Science, has devised a process that accomplishes both tasks.

By looking at a manager's historical returns, Mr. Sharpe devises a benchmark portfolio, which is used to determine what characteristics and exposures a manager brings to a fund's overall management and the extent to which a manager added value through the active management process.

His examination of 408 mutual fund portfolios between 1986 and 1989 found managers are highly consistent in maintaining their investment styles. In addition, the research showed as much as 90% of the median manager's monthly performance can be attributed to his or her style.

The following is an edited transcript of a recent interview with Mr. Sharpe.

* * *

P&I: Briefly describe your recent research effort.

Mr. Sharpe: We have been looking at two questions: Is it possible to predict the style of an investment manager, and is it possible to predict the ability of the manager to beat its style? Equivalently, what is the manager's selection ability?

By style, we mean the particular exposures the manager brings to a portfolio; that is, to moves in major asset classes. In this research, we have used a set of 12 asset classes. Those classes are: Treasury bills, intermediate government bonds, long government bonds, corporate bonds, mortgage-related securities, large value stocks, large growth stocks, medium-capitalization stocks, small-capitalization stocks, non-U.S. bonds, Japanese stocks and non-Japanese foreign stocks.

Were these 12 classes chosen because of their correlation?

Partly. We were looking for asset classes that moved in different ways, and correlation is obviously part of that. We were looking for asset classes that could be defined as mutually exclusive, that would collectively cover investments made by U.S. investors, that could be invested in passively for a reasonably low cost. We made the decision on these particular classes based on their ability to explain the behavior of a series of investment managers that our clients used.

With style, we're trying to understand, and ultimately predict, how the bottom-line return of a fund is going to be affected by moves in these major asset classes.

The technique we use to determine it ex-post is to take a history of monthly returns for the manager, or a mutual fund in the case of this study, and lay them alongside the monthly returns of all 12 asset classes and, except in special cases, we ask the computer to come up with a combination that "moved most like" the manager or fund in question over a historical period.

We constrain the computer under normal conditions to combinations that have between zero and 100% in each of the 12 asset classes. And, of course, the sum of the positions has to equal 100%.

We want to find the mix that had the minimum tracking variance, which is the difference between the manager of the fund and the mix that we're looking at. To do that, you have to use a mathematical technique called quadratic programming.

What we're working on now is finding the extent to which applying this method over some past period can give you useful information about the future.

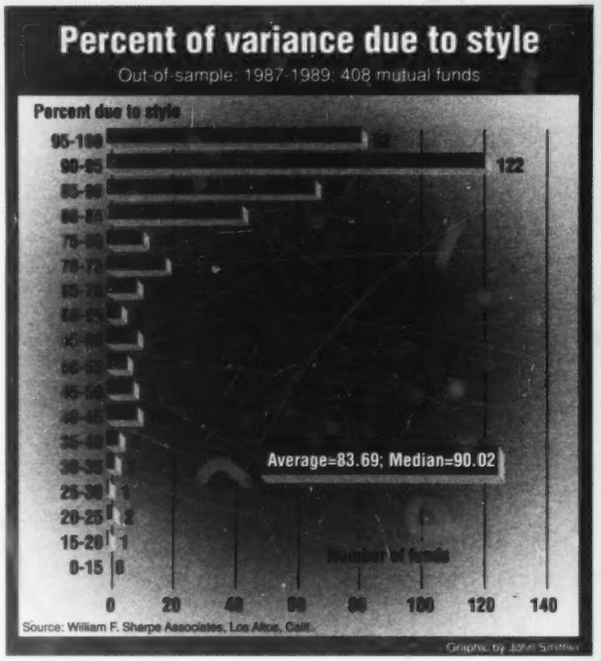
Before I talk about that, let me talk about what we mean by selection. Selection is very simply the difference between the return the manager gets and the return on a benchmark with the same style. If the manager beats that benchmark, he or she has a positive selection return; if the manager is beaten by the benchmark, it's negative.

The notion here is that active managers try, at least, to provide positive selection returns. And, over the long run, if you don't get those positive selection returns, it calls into question the efficacy of that particular active management style. You have to recognize, of course, that only a minority of active managers can get that.

How often do you review the benchmark portfolio and how often does it change?

Every single month potentially. Let's say it's February 1991, we use the returns for the manager

See **Sharpe** *on page 47*



Some Plain Talk About Defined Contribution Plans

RESPONSIBILITY

Selecting a provider for your company's 401(k) plan is a complex undertaking with far-reaching and long-lasting consequences. You bear a great responsibility to choose well. So when you select a company, or review your present providers, you will want to focus on the factors that really matter–the fundamental issues.

Employees Your first responsibility is to your company's employees because it's their financial security which is at stake. Since participants make their own investment decisions, you must ensure that all–the experienced and the novice alike–are provided with adequate education about the fundamentals of long-term investing. Employees should also be given convenient and timely access to information and the ability to change their investment line-up easily and quickly when necessary.

Your responsibility doesn't end when employees' initial selections have been made. Adequate information must also be provided as they transition through an employment career and on into retirement. The company you select should always be there for them.

Performance Of course, you want good performance. But in addition, your larger responsibility is to provide a broad, well-defined selection of investment options which provide dependable results over the long term. Your investment options–from conservative to aggressive–should be managed for specific objectives with each following a tightly prescribed and understandable investment strategy.

Partnership You strive for excellence in your own company. You should expect no less a commitment from a partner. Your administrative partner should have a deep line-up of well-trained people who will be ready to serve your needs, not only in the basics of timeliness and accuracy, but in responding to special requests. Your company is continually changing. Your partner should be flexible enough to grow and change with you.

Value You are willing to pay for quality, which does not mean excessive fees, but fair remuneration for value received. There should be no hidden assessments, no charges later on when you discover that your contract fees cover only minimum service levels. You should require full disclosure. And the same recognition of value should be present in the costs incurred by your participants for investment management and fund administration.

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Sharpe

Continued from page 46

up to and including December 1990 to estimate the style going into February 1991. We want to use information that you really could have had before February started. The notion here is that you could have dropped that manager in January and bought a set of index fund portfolios that replicate the same style. But since you didn't do that, the question becomes: How did the manager do vis-a-vis that benchmark?

In reality, what is the frequency of change?

The way we address that question is to ask: How much of the monthly variation in returns can be explained by the manager's style as determined the month before? What we found was that across a sample of 408 bond, stock and balanced mutual funds, roughly 90% of the median manager's monthly variation could be attributed to style as estimated in advance with this method and with what's going on in the markets. We've known that in sample, you can explain 85%, and in some cases more than that.

What this suggests is that with the mutual funds, and I might add we see the same thing with the separately managed accounts for our clients, these managers do maintain a substantially consistent style. And the ones who had a very tight style in the past tend to have tight styles in the future.

The other side is the selection — whether or not you can find managers in the future who will bring selection to the party by simply looking at whether or not they've done so in the past. Here the results are far less satisfying. The data do suggest some consistency, but of the 204 managers that were in the top half during 1984 to 1986, only 109 were in the top half in the 1987 to 1989 period. That's not a lot to get excited about.

By pinpointing the benchmark portfolio so finely — for example saying this is a small, Japanese, growth stock manager — don't you run the risk of overclassifying a manager?

I think you run the clear danger of misclassifying. If a manager has changed strategy irrevocably in the past month, it's going to be a fair number of months before your data start showing you that, and you're going to have the wrong idea of what he or she is.

Even if a manager is unique, you can put something together that would be very much like it, and we can compare this manager who is unique and we can give him a benchmark that's relevant and find out if he's giving you something that you couldn't have gotten more cheaply and with less added uncertainty.

So you can decide whether a passive index fund approach would have given you the same performance at a lower cost?

You know active management around the exposure is adding risk. The question is: What are you really getting? The way the study goes about answering that is with what is often called the Sharpe Ratio, which is the added value through selection per unit of added risk.

In principle, if you expect to get a positive Sharpe Ratio after costs, then this fund is better than a set of index funds. If you're choosing between two active managers, everything else being equal, you'd want the one with the higher predicted Sharpe Ratio. The problem is, the historical Sharpe Ratio doesn't seem to be telling us much about the future Sharpe Ratio. We don't know, however, how much of this is sample specific or due to the fact that the sample was limited to funds in existence throughout the period.

How does your benchmark portfolio approach to measurement and analysis differ from other approaches?

A lot of the others look at one or more portfolios, in other words they open the hood and see what the manager has.

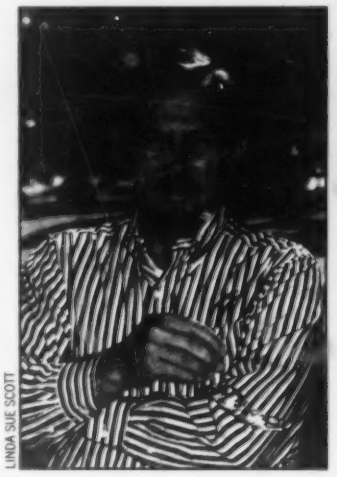
The problem with looking at only what managers have today is if you have someone who does rotate, what they have today may not give you a sense of what they're likely to have in an average month. By looking longitudinally, you get a sense of their longer term natural stance. I think for asset allocation purposes, you want a better sense of their normal stance. And for performance purposes, you generally want to compare their performance with that longer term normal stance.

There's also the issue of how you classify a manager. Some consultants, and mutual fund services as well, continue to force every manager into one box. Everything we've seen suggests that is too confining and too simplistic. Real managers aren't that simple.

You need some method to recognize subtleties and shadings. People who try to do that, do it in different ways. We use 12 asset classes. With the BARRA procedures, for example, for U.S. equity managers they will use in some cases their entire 68-factor model. So they'll represent a manager in terms of exposures to potentially up to 68 different things.

We also do it, in effect, externally. We don't sit down with the manager and say, "Well, what's a normal portfolio for you?" Some of the consultants and/or their clients will sit down with a manager and come up with a list of securities. The trouble with that is that you have to keep updating it to stay on top of what the markets are doing. It's very labor intensive, which doesn't make it wrong, just more expensive.

I guess another difference is we're trying to come up with characterizations that can be put together for the fund as a whole. ■



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